-M/001/039

CENTURION MINES CORPORATION

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FAX: 801-534-1129

April 21, 1997

State of Utah
Department of Natural Resources
Division of Oil, Gas, & Mining
Minerals Reclamation Program
Attn: Tom Munson
1594 West North Temple, Suite 1210
P.O. Box 145801
Salt Lake City, UT 84114-5801

Dear Tom:

The legal descriptions for Phase I, II, and III of the OK Copper Mine in Beaver, Utah is as follows:

PHASE I-

NE 1/4 and SE 1/4 of the NW 1/4 and the NW 1/4 and SW 1/4 of the NE 1/4 of Section 7; the SE 1/4 and the NE 1/4 of the SW 1/4 and the NW 1/4 and the SW 1/4 of the SE 1/4 or Section 6, all T27S, R11W of the SLB&M.

PHASE II-

NW 1/4 and SW 1/4 of the SE 1/4 of Section 6; and the NW 1/4 of the NE 1/4 of Section 7, all T27S, R11W, of the SLB&M.

0020

File

State of Utah
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

Michael O. Leavitt
Governor

Ted Stewart
Executive Director

James W. Carter
Division Director

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801-538-7223 (TDD)

April 22, 1997

TO: Board of Oil, Gas and Mining

THRU: Mary Ann Wright, Associate Director

THRU: D. Wayne Hedberg, Permit Supervisor

FROM: Tom Munson, Senior Reclamation Specialist

RE: Updated Information, Centurion Mines Corporation, OK Mine, M/001/039, Beaver County, Utah

It has come to our attention that the legal description as found in the Reclamation Contract and the executive summary are not the same. We contacted Centurion Mines Corporation in order to clarify this discrepancy and obtain the corrected legal description. We asked Centurion Mines to address the legal description for each phase of their mining operation.

Enclosed you will find: 1) an updated executive summary; 2) updated page 8 of the Reclamation Contract which shows the legal description for each phase of the project; and 3) a map showing the three phases of their operation.

As stated in our previous memo, Centurion Mines only wishes to post reclamation surety for Phase I of their project at this time, although the Division has approved of the mining and reclamation permit for the entire project. At such time as Phase II and Phase III are initiated, Centurion Mines will again have to come before the Board to seek approval of the form and amount of additional surety.

jb
Enclosure: Updated Executive Summary, page 8 of the MR-RC, Map
o:\board\M001039.mem

EXECUTIVE SUMMARY

Prepared January 8, 1997
Updated April 22, 1997

Mine Name: OK Mine
Operator: Centurion Mines Corporation
331 South Rio Grande Street - Suite 201
Salt Lake City, Utah 84110

Telephone: (801) 534-1120
Contact Person: Rick Havenstrite

I.D. No.: M/001/039
County: Beaver
New/Existing: New
Mineral Ownership: Fee
Surface Ownership: Fee
Lease No.(s): N/A
Permit Term: Life of Mine

Life of Mine: 10 years +

Legal Description: ***Phase I***: NE1/4 and SE1/4 of the NW1/4; the NW1/4 and SW1/4 of the NE1/4 of Section 7; the SE1/4 and the NE1/4 of the SW1/4; the NW1/4 and the SW1/4 of the SE1/4 of Section 6, T27S, R11W, SLB&M, Beaver County, Utah

Phase II: NW1/4 and SW1/4 of the SE1/4 of Section 6; the NW1/4 of the NE1/4 of Section 7, T27S, R11W, SLB&M, Beaver County, Utah

Phase III: NE1/4 and SE1/4 of the SE1/4 of Section 6; the NW1/4 and SW1/4 of the SW1/4; the SE1/4 of the SW1/4 of Section 5; the NW1/4 of the NW1/4 of Section 8; the NW1/4 and NE1/4 of the NE1/4 of Section 7, T27S, R11W, SLB&M, Beaver County, Utah

Mineral(s) to be Mined: Copper produced from the following oxide copper minerals - azurite, malachite and tenorite

Acres to be Disturbed: 275 acres for Phases I, II & III, (Phase I = 128 acres)

Present Land Use: Hunting, grazing, rock collecting, off-road vehicles

Postmining Land Use: Grazing and recreation

Variances from Reclamation Standards (Rule R647) Granted: **R647-4-111-7-highwalls; 111.9 - dams and impoundments; 111-12-topsoil redistribution (pit walls); and 111-13- Revegetation (pit walls).**
(1) **pit highwalls** will be allowed to remain at angles steeper than 45 degrees. Backfilling or otherwise flattening the pit walls at the end of mining would have the effect of making the remaining ore uneconomic for future mining. The current pit walls are stable at approximately 60 degrees and have been for 25 years.
2) **dams & impoundments:** A small impoundment of less than several hundred square feet will be left based on the following facts. It will have a reduced drainage area following reclamation. The embankment will be stabilized with coarse rock to prevent failure. It will also provide some riparian habitat and limited water for wildlife following reclamation. It is not considered large enough to constitute a hazard and will remain an overall benefit to an arid environment.
3) **topsoil redistribution and revegetation:** It is not practical to regrade or revegetate pit walls. The pit walls will be left at approximately 55 degrees. The walls will be solid rock. Based on the condition of the current pit, it is highly unlikely that vegetation can be established on these walls.

Soils and Geology

Soil Description: Soils are all derived from decomposed granite with varied amounts of silt, sand and rocks. Soil depths in the mine and dump areas are typically less than 5 feet and are underlain by bedrock. In the area of the pad, soils contain a higher degree of silt and sand and the depth to bedrock is 5 to 20 feet typically.

pH: 8.1 - 8.3

Special Handling Problems: None

Geology Description: The project is located in low foothills and the top of a gently southernly sloping alluvial fan. The entire area is underlain by a massive igneous (granite) intrusion. A nearly vertical fault zone cut the granitic formation and this fault was later mineralized with copper minerals such as azurite, malachite, and tenorite. The relatively homogenous granitic rock formation extends at least 3 miles in every direction.

Hydrology

Ground Water Description: There have been hundreds of holes drilled in the vicinity of the project. The holes drilled in the vicinity of the pit, 400 feet below the bottom of the pit, were dry. Other holes drilled within the vicinity of the project encountered minor amounts of brackish water. Only several holes encountered any significant water and these holes were located next to one of the two main drainages coming from the hills above the project. Hole MD-1 was drilled in the vicinity of the pad to a depth of 705 feet and encountered negligible water. Hole MW-1, southwest side of the pad, encountered good water and is down gradient of the pad and is to remain a monitoring well.

Surface Water Description: There are no streams or springs within 5 miles of the operation. A major wash exists to the west of the project which collects surface runoff from a large area to the west and north of the project. This wash is ephemeral and will not be disturbed. It and only experiences flows during extremely intense storms.

Water Monitoring Plan: Groundwater will be monitored for 8 consecutive months prior to the commencement of operation and semi-annually thereafter. Two current groundwater monitoring wells have been located immediately down gradient (south) of the proposed heap leach pad and processing ponds area.

Ecology

Vegetation Type(s); Dominant Species: Big sagebrush, rabbitbrush, squirreltail grass, indian ricegrass

Percent Surrounding Vegetative Cover: 21%

Wildlife Concerns: Only concern are the antelope. Centurion intends to construct a six foot high chain link fence around the heap leach pad and processing plant area. In addition, a water trough will be placed and maintained outside the fenced area.

Surface Facilities: Heap leach pad, SX/EW (solvent extraction/electrowinning) process plant, office building, mine shop.

Mining and Reclamation Plan Summary:

During Operations: The mining operation will consist of three phases as follows: *Phase I* - construction of a fully lined (57 acre) heap leach pad, a (2 acre) solvent extraction/electro-winning(SX/EW) processing plant, and the re-mining and leaching of 2 million tons of (previously mined) stockpiled copper ore surrounding the old O.K. Pit. The SX/EW process produces a copper sulfate electrolyte which is pumped into electro-winning cells where 99.998% pure copper is electroplated onto stainless steel sheets. The copper ore is leached with a dilute sulfuric acid solution. *Phase II* - strip mining new ore by widening and deepening the existing O.K. pit. Overburden to ore stripping ratio is approximately 1:1. Run of mine ore will be stacked on the heap and leached. *Phase III* - development of the new eastern extension of the ore zone (Mary I pit). This pit will merge into the eastern side of the O.K. pit. All environmental permits will be in place prior to initiation of operations. Reclamation bonding of this operation will occur in phases. Approval of each phase will remain contingent on adequate permitting and bonding for each phase. All process water will be contained in a fully engineered facility and all environmental controls will be in place prior to initiating leaching operations. Approximately 10 million tons of ore and 10 million tons of waste material will be produced. Variances were granted to topsoiling and reseeding requirements for inaccessible and unsafe pit benches and highwalls. Variances were granted to allow pit highwalls to remain at angles steeper than 45 degrees, and to allow the pits to impound water following mining.

After Operations: The heap will be rinsed with fresh water rinsate to comply with final effluent standards set by the State Division of Water Quality. Solution in ponds will be allowed to evaporate. Remaining sludge will be tested for metals and subjected to meteoric mobility analyses. All remaining hazardous material from these ponds will be disposed of at an appropriately licensed facility. Pond liners will be folded or dozed into the pond bottoms and covered with 5-10 feet of fill. All dump slopes and heap leach pad slopes will be graded to 3H:1V, and covered with one foot of topsoil and re-vegetated. Monitoring wells will be plugged according to state requirements. A water well will remain to provide a long-term source of water for local wildlife. The processing facilities will be demolished and removed or buried onsite. Exposed concrete foundations will be broken up and buried. The process facilities area will be graded to blend with the adjacent topography and re-vegetated. All non-hazardous or non-toxic materials will be buried. Any remaining hazardous or toxic materials will be disposed of according to federal and state regulations. Approximately one foot of topsoil will be replaced on all disturbed, non-pit areas that originally had topsoil. These areas will be roughened, terraced and reseeded with the approved seedmix to allow postmining use by livestock and wildlife.

Surety

Amount: $550,000
Form: Certificate of Deposit - First Security Bank of Utah
Renewable Term: 5 years (2002)

ATTACHMENT "A"

Centurion Mines Corporation
Operator

OK Mine
Mine Name

M/001/039
Permit Number

Beaver County, Utah

The legal description of lands to be disturbed is:

Phase I: NE1/4 and SE1/4 of the NW1/4; the NW1/4 and SW1/4 of the NE1/4 of Section 7; the SE1/4 and the NE1/4 of the SW1/4; the NW1/4 and the SW1/4 of the SE1/4 of Section 6, T27S, R11W, SLB&M, Beaver County, Utah

Phase II: NW1/4 and SW1/4 of the SE1/4 of Section 6; the NW1/4 of the NE1/4 of Section 7, T27S, R11W, SLB&M, Beaver County, Utah

Phase III: NE1/4 and SE1/4 of the SE1/4 of Section 6; the NW1/4 and SW1/4 of the SW1/4; the SE1/4 of the SW1/4 of Section 5; the NW1/4 of the NW1/4 of Section 8; the NW1/4 and NE1/4 of the NE1/4 of Section 7, T27S, R11W, SLB&M, Beaver County, Utah

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